Spajky2:

Yes, connecting AK4-AG1 works. I've got a 1.1A running on a CUSL2 without any problems. I used a small piece of 30AWG magnet coil wire to make the bridge. It sits much better (flatter) on the socket than using a strip of IDE cable. I could've used conductive paint but it's a pain to apply.

Something I noticed and it might help a few ppl trying this mod. On all of the SL5ZE 1.1A that I have tried (4 in all - 2 Malay, 2 Phil.) none of them was stable when I bridged AK4 and AK26. But when I change that to AK4-AN11 or AK4-AG1 (shortest path) they are rock solid stable.

Hope that helps a few of you.

FYI - I got a new retail celeron 1.3a from NewEgg running on my old Abit BH-6 rev 1.0 using a generic "Super Slocket III" off of ebay. It's running nice and stable with not a single crash.

I did the following:
1. Isolated AN3, AJ3, AK4 using wire insulation
2. Connected AK4-AK26 using an insulated wire on the cpu die
3. Connected AM34 - AK36 (Vss to Vid25)
4. Connect G35 to G37 (I believe this has only been recommended for generic slockets. I did not isolate any of these pins either)

I performed steps 1 and 2 only and and my pc would not even post. I read some more and I assumed this was because Vcore was too high. (Good thing the Celeron has overheat circuitry)

I performed step 3 by sticking a small piece of insulated wire between the AM34 and AK36 holes on the slocket itself and putting the CPU in to hold it in place. Reaspon: generic slockets do not have a voltage jumper settings. PC would still not post and then I saw the info on shorting g35 to g37 on some slockets.

I performed step 4 also putting a wire on the slocket. PC beeped and posted this time. I went into the BIOS and set it to the 12x multiplier (highest you can choose), 100MHZ, 2/3 AGP, speed error disabled and default cpu voltage. Upon reboot it posted as a Pentium III 1.3 cpu and is now running Windows ME with no problems.

I have another BH6 machine I want to update sooner or later. Is the Celeron 1.3 the fastest cpu this board will take?

Thanks to all
Joe

FWIW, I have managed to make a 1.4 Tualeron run on my old but trusty Abit BH6 v1.01 (bios rev SS) using a generic Cu-mine adapter (off eBay; the same model that's sold for $5+5 by MemoryShippers, http://www.memoryshippers.com/shop/...?did=28&pid=922 - but I only paid $9 for mine).

What I did is:

---

1. isolate AN3, AJ3, AK4

2. connect AK4-AK26 (with IDE cable wire)

3. connect G35-G37 because there was no connection between them on the slocket
(note: I didn't have to connect AK35-AM34 because my digital multimeter showed about 3 ohms between them, i.e. they were already connected, but YMMV).

4. enlarge the holes in the socket, put the cpu in, try to force the Volcano fan on top, realize that I needed to bend the retaining clip because the cpu wasn't flush with the socket surface... whew, finally attached. Used generic silicone paste, I don't belive in fancy compounds (my own measurements on another setup showed less than 1 degree difference between a silver compound and simple silicone paste).

Booted at once, the default voltage was correctly recognized by the MB (1.5V), good because the generic slocket doesn't have voltage jumpers. Bumped the FSB to 112 for 1568 MHZ on the CPU, runs rock stable at the default voltage. Transcoded a few DVDs to DivX and SVCD, great! Not a single crash. I doubt I'll be able to get the FSB any higher because of my SCSI card which really doesn't like more than 37MHz, but I'll try... in a few days.

Thanks everyone!

---

ok, I got an abit wb6, which has an 815e chipset, also I bought a super slocket-III. Now I'm looking to buy a Tualatin and mod it. So far here is what I've peiced together:

1. Isolate pins AN3, AJ3, and AK4
2. Connect AK4 to the closest vtt pin (either AN11 or AG1)
3. Then do a Vid mod.

Its number 3 that I don't get. if my mb can do the 1.5v do I need this mod? is it chipset dependent?

(btw here is the link to the datasheet:

http://developer.intel.com/design/c...ts/29859604.pdf

)

Also note that section 2.8 in that datasheet it specifies that vttpwrgd should be connected to vtt and not pwrgd.

Also, any hints as to which T Celeron I should get (in terms of a multiplier)? I'd like to OC it, and prefer using 133 bus. Thanks in advanced.

.....Curtis

I've been away awhile and catching up on recent posts.

I'm thinking it's time for cpu elecronics wizards consultion on ak4 connection.

My recollectons from this and Madonion forum concerning the ak4 connection:

First it was ak4 to ak26(PWRGRD on Celeron and Tualatin) -
This seemed too high voltage to some folks.

Then came ak4 to an11(RSV on Cel, and Vtt on Tual), or
ag1(EDGCTRL on Cel, and Vtt on Tual)
This is easier(closer than ak26)

Now, last post by ebc was ak4 to am4(Vcc on Celeron and Tualatin)
There was also a post of someone using aj5(also Vcc on both)
This is surely the best/easiest to connect and looks reasonable to me.

A number of people lately seem to stuck on using ak26, but
am4 or aj5 seems best to me, at this point.

So what do you all think is the best connection for ak4?
The choices so far seem to be
ak26, an11, ag1, or am4/aj5.
What do you think???

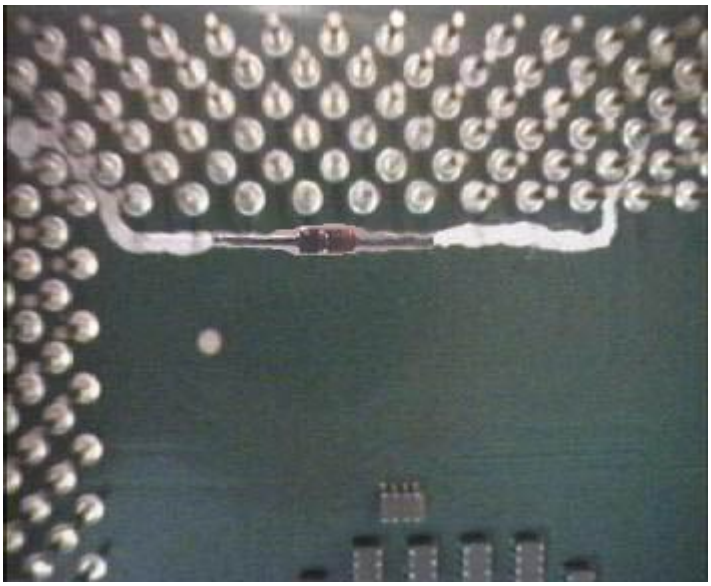
Thanks to all who keep on helping, and keep this thread alive!

---

there is a problem using aj5 instead of ak26 or an11
aj5 is a VCC pin , so if u overvolt the cpu also ak4 will be overvolted!

i think an11 is better (VTT=1,5v) but it didn't work on my system
so i use a diode between ak4 and ak26

the diode drop voltage is 0,5v
so ak4 is driven to (1,8-0,5)=1,3v very close to the original 1,25v value



Hi,
I have an Asus P3C-E Slot 1 mobo and it has a i820 chipset and have tried to run Tualatin CPU's like BX mobos and find a better and easier way for both! (Maybe for non-tualatin based 810 and 815 chipset based ones too, I couldn't test, but you may try it...)

We only need to insulate 7 pins. No need to bridge AK4 on the CPU. I used an Asus S370-DL adapter. The pins should be insulated are: AN3, AK4, AJ3, AG1, X4, AB36 and X34. To insulate you can use single wire telephone box type cable, by pulling the copper wire in it, to use the plastic protector for the pin isolator, without widening the holes, which is easier. You can cut the plastic protector at the same hight of the CPU pins. (Don't worry, they are not shot-circuting.) Basicly insert the cable to the pin and cut it with a model knife, from the upper surface of the pins. After some time, if you remove the CPU, those plastic parts stays inside the 370 Socket, I have inserted the CPU several times without doing the insulation work again and again. (To see this, don't immidately remove the CPU, close the arm, run the processor some time, then... remove it. The heat and the pin holder reshapes the plastic protector to make this happen.) But if you mistakenly drop the plastic parts to the 370 Socket, use your model knife to push from the 4 holding guides from top (by inserting the knife througly in it) and hold upwards 4 of the upper part guides one by one, starting from the opposite side of the removing arm.

Detail is here: AG1 is EDGCTRL that have an indirect 50 ohm connection to VCC and X34 pin is VCC on S370-DL adapter, but VTT on the tualatin CPU. AJ3 and X4 are GND on S370-DL adaptor but RESET2# and GND on the CPU, however AH4 and X4 are connected with each other as RESET on the S370-DL adaptor therefore X4 needs to be insulated. As you know AK4 doesn't have to touch GND and thus needs to be insulated like DYN_OE on AN3. Lastly AB36 is safer to insulate because it has an indirect connection too, isolating decreases the mobo and CPU temperature about 5'C degrees that, V_CMOS signal is unnecessary to connect to VTT on Tualatin CPU.

OK, I have managed to run a Celeron 1100A at 1466MHZ very stable. Mine was a tA1 stepping one

and works with 1.475Volts. Therefore I need to adjust the Voltage jumper to 1.5Volt over the S370-DL adapter. If your CPU works with 1.5 Volts, you may set it to Auto Detect. 1.45Volt based P3-S type 512kB cache based Tualatin CPU's may also accept to run with Auto Detect. But 1.475Volt ones MUST have to be adjusted to 1.5Volt over the S370-DL manually. This is related with VRM 8.4 and 8.5 spec. difference. If you don't have an Asus S370-DL adapter and no have an on board Voltage adjustment jumper down to 1.5Volts, then don't buy 1.475Volt CPU's or make yourself a vid pin Voltage adaper.

I have a Celeron 1400 CPU too, which works with 1.5Volts and manage to run it with an OEM SUPER SLOCKET-III type Chinese adapter, but it crashed several times although I run it at normal 1400Mhz. My bios suprisingly displayed a P2 1200Mhz processor on the post screen with both of the adapters. But I have tested it with WCPUID and SiSoft Sandra 2003, they both said it is a 1400Mhz processor. (Exactly 1413.21Mhz) This is because of the non-tualatin based bios. I have overclocked it to 103, 105 and 107Mhz but this time it displayed 1442, 1470 and 1499Mhz processor at the post screen truely. I didn't pushed it more, maybe it goes true 109 and 112? Celeron 1100A displayed OK at the post screen when running it at it's original speed. I wonder why it did, but 1400 didn't, according to my latest 1025 beta 2 build bios? Both the CPU's are tA1 and Philippines manufacture.

If you have another type, other than S370-DL adapter, check the following things to make sure.

-G35 is VTT and sometimes G37 is left open. If it is not connected to anywhere else, connect it to G35 for better VTT performance. With a little soldering work if you wish, this is optional. On Asus S370-DL those ones connected both to VTT.
-AM2 is KEY pin on Tualatins but generally not used on Socket 370's. If it is connected to anywhere else, insulate that pin too.
-AK36 needs to touch GND for disabling 0.025 Volt increments. If the adapter pin or the mobo's Socket 370, is not a GND (VSS), manually connect it to AM34 under the 370 Socket by soldering again, this one is not optional, it is necessary. On Asus S370-DL, I was lucky again. AK36 was a GND.

If you wish to check the connections, use a beeping testmeter at, for example 200 ohm switch to be sure, there is no indirect connection(s). If testmeter beeps and displays around 2 or 3 ohms, this means it is directly connected and, 10 to 50 ohms or up means it is connected via the on board components, which also means it is connected too.

I want to add a very important thing. Althogh there is a Celeron CPU running on the Asus adapter. Set the CPU jumper to PIII not to Celeron. PIII setting is better and also necessary for both the CPU and adapter. Celeron setting is for 0.18 and 0.25micron PPGA type copper and non-copper Celerons. Other single jumper is of course needs to be jumpered to Intel CPU.

By the way, I advise all the modder people to try this way, to prevent board blow out first. The other 3 pin and bridge way is really dangerous because of having short-circuit at indirectly at AG1 and directly on X34 VCC with VTT. If possible reverse your running, simple method type with this one Those pins are generally connected to VCC directly and indirectly (for running PPGA type Celeron CPU's on adapter cards and mobos.) Which now are used as VTT on tualatins. Intel design guidelines strictly advises not to short-circuit any other type of signals with each other. If you do this, your CPU and mobo components may die immidately or after some time. I have read so many people has killed their mobo by trying the basic method. My way not only runs the CPU at its desired 35~40'C around temperature but also allows for correct VCC (CPU core Voltage) value as specified by Intel. The old bridging way runs the CPU with 1.8 Volts and prevents VCore adjustment which shortens the life of

the CPU.

Maybe I need to post one more detail. As I have said I have two Tualatin CPU's. The bigger fan based Celeron 1100A is quite naughty. When I touch the Heatsink after some time, the computer restarts. But not with the smaller fan based Celeron 1400. The original Intel fans are now only Aluminum and no have a black insulator paint, the painted ones were better. If you experience such a silly thing, simply connect the heatsink to computer ground. This might be related with EMI (electro magnetic interference) all the big fan based P4 heatsinks are connected to Computer GND for that reason. You may connect a cable to the heatsink and link it to computer case or connect a thermal sensor to the CPU body, which has a GND connection on one pin, or under the heatsink put an isolating conductive material, at various heatsinks this type was used, or simply don't touch the heatsink if you experience this, when the computer is on. Even tough CPU protective plate has no contact with inner CPU dye, this occurs at some designs.

I have looked at Belinassu's site and thought that the description is for BX only. There are various adapters and various mobos with various chipsets. I am trying to be as much as general for all 8xx and BX series with SC242 and Socket 370. The Slocket adapters and first Socket 370 mobos are build up to coppermines as you know. But they have support for all the processors until that time. Some of which, also supports Cyrix CPU's. This makes the work harder to trace the circuitry diagrams. Therefore I have found more pins than others did. If you have an abnormal temperature such as over 50'C degrees on your CPU and mobo, and see more than 1.5 Volts for the normal CPU core, have a try my superior design for the sake of your system. I know the isolation and bridging takes too much time and afford, but maybe I am too late. Well I hope all the boards last long enough, but I am sure not as long as I advise because I have stricly updated it. Not completely new, but exactly sufficient now.

I have repeated my post to this part by request. I am a new member and Happy new year to you all...

Well,
To check AK36 Gnd or not you need to know where the Gnd is. There are 74 Gnd pins on the Tualatin CPU, but we need to check it under the Socket 370. Nearby there is AM34 or AM30 pins as Gnd. If you don't have a testmeter, you can check it by building a little kit with 2x1.5V battery and a 3 volt led or a touch lamp. Like the on/off switch, if it complete the current, lamp lights. Now hold the cable on (typically assume that you removed the on/off switch and has two open cables) AM34 and other to AK36. If lamp lights, AK36 has a ground connection. Basics form Physics. But probably you already have the Gnd on AK36 because your processor runs...

You may break the pins if you wish but, if you manage to buy one of those adapters later, those pins may be necessary for them to properly run... Depends on you! I am not advising to braek any pins and if possible do not give damage to adapters, by removing it's contacts. There are shortage of those adapters now. Like I did, someone later prepares a better CPU upgrade kit or a better CPU upgrade (Cyrix or Intel Overdrive) so those adapters are necessary again. But if you need to choose, remove CPU pins, instead of playing with adapters. But what happens if you later find a Tualatin board? Think twice...

Falkentyne asks, how is powerleap adapter working? Well first of all there are 3 types of Power Leap adapters for SC242's. The one, which is best is PL-iP3/T only for SC242's. Others must have to be used with Slockets that, PL-370/T with an additional voltage supply connection and, PL-NEO/T. But this one is not a good one. It has 2 less pins on CPU side and 10 less pins at Socket 370 side. All the models

works different than each other. Best one (for SC242 only model) internally adjusts the CPU Vcore and provides the necessary supply voltage by a 4 pin floppy connection. PL-370/T for Slot 370 also manages that but needs a 1.5 Volt CPU for %100 compatibility. Lately 1.33 and 1.4 Ghz (this one is very new and available only with tA1 stepping currently) 256K cache based ones are 1.5Volt. All 512K cache ones are 1.45 Volts. Probably all the copper based Slot 370 boards may run them at 1.5 Volt with this type adapter and the Celeron 1.475 Volt ones too. 1100A Mhz and upper Celerons are 1.5 Volts but 1100A and 1200 models both have 1.475 and 1.5 Volt variations. For more info check the www.powerleap.com and www.intel.com sites.

Finally I want to add performance details...

--> With Celeron 1400 over WinXP with SiSoft Sandra 2003:

-PR1831 rating with 109x14=1526.03 Mhz (PR 1696 with 1413.20 Mhz) and consumes 39W. (36W normally)

-CPU bechs are: 4151Mips and 2044Mflops. (3843Mips and 1896Mflops normally)

-Memory benchs are: 829 and 818MB/s, (767 and 757MB/s normally)

-Multi Media Marks are: 8020 and 10068it/s. (7423 and 9319 Normally)

on Multi Media Bench my CPU gave a higher result than Pentium 4 2Ghz 256K L2. I did this overclock testing for the CPU fanatics, who may need to see it. I personally run this CPU at it's original speed now.

-->With Celeron 1100A over XP with SiSoft Sandra 2003:

-PR1768 rating with 133.9x11=1472.92Mhz

-CPU benchs are: 4007Mips and 1972Flops.

-Memory benchs are: 985 and 965MB/s

-Multi Media Marks are: 7739 and 9716it/s

this one works with overclock.

I have two Asus P3C-E mobos and two S370-DL converters. One works with 256Mb PC800 ram, other works with 512Mb ECC PC800 ram. I have given results according to 256Mb Non-ECC one. 512Mb one works with lesser performance because of being 288Mbit technology. The reson is, the current bios has no 288MBit performance optimization. I have checked those rams with my sisters Intel VC820 board, and they worked fine on it.

Current bios has another problem with HDD's by the way. Bios can not detect HDD's with 16 Heads properly. It autodetects and adjust all the HDD's with 255 heads. This causes unformatted areas on

disks. Asus have to correct this bug too.

Soon, I hope Asus also adds Tualatin support to the new bios. Has anyone made a bios modding to P3C-E for Tualatin CPU, anyone knows?

Ahhh... I am really tired. I hope I have given enough information to you all. Have a good christmas to you all again...

I think the only way to run the processor 100% in spec is to use a PowerLeap or upgradeware slocket because these are the only slockets that have voltage clamps to reduce the voltage on the 1.50v AGTL+ bus to the 1.25v that the Tualatin AGTL bus uses.

If I understand correctly, Cemal Gurel's method eliminates the 1.8v supply to the processor on the "PwrGood" line (as the Tualatins only want 1.25v on that line), and also eliminates some possibilities for shorting out the CPU and/or motherboard. This is much better then the old way of connecting pins, however, the GTL bus still runs at 1.50v instead of 1.25v.

- JW

JCLW asks for modding details of the new way. OK! The VCC (VCore) signal is different than the VTT. Yes, my way now posts 1.5 Volt to the VCC. But the new way, can not handle to decrease the VTT to 1.25 Volts, which said to be %0.9 tolerant and %0.3 tolerant when active. As far as I know, VTT is a termination signal, therefore it is the negative signal side of the CPU in a way. We assume that CPU uses or consumes 1.5Volt, than after it consumes some power there, the signal logically lost some power after/when reaching to negative pole. VTT is this. This one is not too much important. Turning point way of the signal can not give abnormal damage to CPU and on board components unless, it is stronger than the VCC signal. For that reason, I am advicing you to use 1.5Volt CPU's at least. I am using a 1.475Volt one to see this. The board components, auto adjusts themselves, not to set this balance to opposite way. Therefore I see 1.54 Volt VCC consuption for 1.475 and 1.52 Volt consuption for 1.5Volt. Because of VCC is 1.475 Volts, and VTT is 1.5 Volts, computer components sends more power to 1.475 side as high as 1.54Volt. (If lets say I have a 1.45Volt CPU than the system may send the CPU, for example 1.56 Volt.) This is the logic of running a component. My other 1400Mhz CPU consumes 1.5Volts but my VTT signal is 1.5Volts too. Than the mobo components sends a little bit more power to VCC as 1.52Volt to become stronger positive side after the 1.5Volt VTT. Did you understand? If the balance turns too much against the VTT, than the motherboard will send more and more power to CPU VCore. But abnormal high input burns the CPU. 0.5Volt increments are admirable, knowing that, I run the CPU at 1466Mhz insted of 1100Mhz, therefore the CPU really needs that much current. You need to be a computer engineer to understand that. I am a Radio&TV&Film graduate,but my father is an electronics engineer who graduated from Constanz/Germany, therefore I know.

You are asking that, is Power leap %100 compatible or not. Actually none of the designs can give % 100 compatibility if your board is not a Tualatin board. Because Tualatins use differential signals to manage to run the CPU dependable at high frequencies. No one can possibly provide that, unless you have a compatible board. We are only managing it with a single side way. The other lane can not be used on non-Tualatins. It is not possible, if you have no double lane managing substructure on your mobo. Intel managed that, by reducing the Voltage at that way to prevent EMI (electro magnetic

interference). We are completely not using PWRGOOD signal, because of not having such system (double lane) to inform as ready, to the Computer system. GTL bus is the general signal name for all the 1.25Volt signals including the VTT signals, as far as I know. Yes we have no lesser any type of signals, lower than 1.5Volts on board...

Brief explanation of 7 pin isolation/removal method:

-New way prevents extreme 1.8Volt only Vcore and gives adjustment opportunity starting from 1.5Volts, up to 3.5Volts.

-Easier to build, without bridging on the CPU.

-Generates lesser heat, allows better overclockability.

-Prevents, Slotket short-circuit for tualatins.

-Protects mobo's mosfets and board blow-out.

-Can use every cooler, box cooler or yours favorite one.

-Consumes less power, protects power supply.

-Protects mobo capacitors and resistors.

-Finally, protects your wallet...

If you feed VTTPWRGD with VCC you of course get 1.5Volt or whatever you adjust for VCC from the motherboard. Some others tried that from VTT being all the time 1.5Volts too. 1.8Volt supply is possible with the so called, famous bridge AK26 (PWRGOOD) with AK4 (VTTPWRGD).

You might be right being unsuccesful, because of using a different Slotket. I have tried a Chinase Slotket and become unsuccesful too. I can advise you to try with an Asus S370-DL. (If you become unsuccesful after your attempts.)

I want to add one more thing, because of others run their designs with short-circuits, they needed more power from their power supplies, and fixed this issue by increasing the VCore. (The system vasted some amount of power from those shorts.) I don't advice increasing the VCore too much, because we don't have resource wasting shorts now, therefore incresing the VCore directly sends more power to the CPU, that can be imagined. 1.5 and 1.55Volts are enough to run at original speed. 1.6 and up might be used for extreme overclockers. But definitely not more than 1.7 Volts. At that case they become first generation Coppers that, if so, Intel does not necessarily need to change chipsets and CPU core's accordingly. I know there are fanatics who tried upto 2.0 Volts. Don't try to be an engineer by repeatedly tring so many combinations. There are sometimes, other resons which can not be handled. Try their way, or this one with an Asus S370-DL. More attempts may make you upset, by causing handicaps...

Well Well Well...
I have decided to explain the difference between the AK4 to AK26(PWRGOOD) or AJ5(VCC) or AN11(VTT) compared with AH4(RESET) and X4(RESET).

Intel has build 3 generations for Socket 370. To protect their design, they needed to replace the paths of some of the pins. The most important protective circuitry here is the 3 RESET pins. X4 was the 0.25 micron process RESET pin. AH4 was the 0.18 micron Coppermine process pin and finally AJ3 was the 0.13 micron Tualatin process pin. If one of those reset pins touchs the GND, computer understands that, an unappropriate processor has been populated, therefore the Processor VCore has been cut. (They prevented to run the CPU.)

What the bridging method manages is, they were by-passing this system by giving current to AK4 pin, therefore the processor gets the VCore and thereby works again. I have corrected this by finding the trick...

Others therefore needed to build "Cold Boot Voltage Selectors" to manage to give desired VCores to the CPU. I have also searched that, there are dangerous pins that cause short-circuit at AG1, AB36, X34. THOSE 3 PINS CAN BE INSULATED WITH THE OTHER BRIDGING WAY TOO! I mean if you are using, AK4 connection on CPU, and/or using Cold Boot Voltage Selector's, those 3 pins needs to be insulated too. AN3 and AK4 needs to be insulated on borh of the designs.

Let's say I am an Intel engineer that, decided to build a 0.09 micron process based P3 processor. Lets say, I have choosen to use 200Mhz fsb with 1.6GB/sec bandwith, and have decided to use PC800 RD-Rams for that system. Where can I start to my work for the new design of Socket 370? As I have explained above, I need to choose a GND pin to use as my new RESET signal. Let's say, I have choosen AG5 or X5. Than, if someone inserts this new CPU to a Tualatin board, it won't work.

OK! Folks, thats it today for this year. Have a good christmas...
I wish you a happy trouble free year in 2003.
Bye... Bye...

---

hi,

just to let you fellas know that after i bridged
AK4->AN11,it booted with 3.5v default,yikes
good thing i went into bios first
i quickly shut off and set the jumper on my
S-370 DL to limit voltage to 1.5v and luckly
everything is OK for past two months

before that when i just have the 3 pins
(AN3,AK4,AJ3) insulated,my bh6/S-370 DL
detects my celey/tully 1200@1600 correctly
@1.5v and please advise

should i do the new mod?

I have explained the 7 pin modding, with too much detail. If you still can't understand what is going on, then I have nothing to do...

---

hi,

ok,i did the ak4<->aj5 bridge,and it works
thanks W1zzard for da tip cheers

btw,with this mod my bh6/S-370 DL detects
celey/tully's default voltage correctly @1.5v
but i also had the S-370 DL jumper set to
limit voltage @1.5 because of the default
voltage were being detected @3.5v with
the previous mod (AN3,AK4,AJ3) insulated
and AK4->AN11 bridge

does anybody forsee any issues with the
(AN3, AK4, AJ3, AG1, X4, AB36, X34)
insulated with the ak4<->aj5 bridge?

thanks

@ -J- & rolypoly98:

"SuperSlocketIII" : isolate those 3 pins (an3,aj3 & ak4) & make the bridge between isol.ak4 & nonisol.an11. No breaking pins needed!!!
here is the picture showing my mod on Abit slotket: http://users.volja.net/jerman55/TualModsoc.JPG
Than you have to solder g35-g37 together on the back of the slotket & also Vid pins for propper default Vcore if needed /depends of mobo also-try; mine MS6163pro needs Vss-Vid0-Vid1 for 1,45Vcore to go to max.1,75 in Bios/; check Intel datasheet for Vid definitions for Vcore! I did not need to flash bios or reinstall my W98seLite OS!

For Asus P2B-F 1.0A & 1,3G Tuallie works IMHO without Bios Flashing, but for others because of some multiplier bug earlier I am not sure; but flashing to the latest should help to work for all Tuallies!

> *Originally posted by quarkz*
>
> **Hi,**
>
> **you mean it really work! I just have 2 more qns ...**
>
> **1. when you say you connect a wire between ak4 and ak26, did you do it on the cpu or on the slotket. Do it matter anyway?**
>
> **2. have you tried connecting ak4 to ak11? Does it work?**
>
> **Thanks alot!**

1- yes it matter! do the bridge on the cpu, not in the socket
2- i tryed on bx133 but it didn't work, so i used ak4-26 also on be6
(try ak4-an11 anyway, if it work it should be better than ak4-26)

I tried both bridges and must say that the ak4-an11 is more stable

---

Hey,
Here are the chips can support Tualatin and nonCopper&Tualatin.

HIP6004(CB), HIP6004B(CB), HIP6019B(CB), SC1185&SC1185A, US3007(CW) Supports at least Coppermine and can support Tualatin with Powerleap and Upgradeware adapters.

HIP6004A, HIP6019(CB) only supports 0.25micron processors upto 600Mhz. (nonCopper&Tualatin) With these, even Powerleap and Upgradeware adapters can not support throughly or can not. Because they can lower the VCC Voltage as low as 1.8Volts only.

I have found two more good chips supporting Coppermine&Tualatin CPU's. Those are HIP6020(CB) and HIP6021A(CB).

There might be more chips that I know. Don't ask me please!!!

Simply goto www.msn.com or others and search for it. Do not put the pharantesis that have I put. They are for easy understanding only...

Hi Again:

Someone asked me before, about the safest bridge between

AK4 with VCC (AJ5, AK2, AM4) or
AK4 with VTT (AN11) or
AK4 with AK26 (PWRGD) this one seems not a good choice but first try VCC, than this one, and finally VTT.

I have tested VCC and VTT deeply and the winner is VCC. YES, use VCC insted of VTT for safety. Actually my 1.4Gig Cel is dead while testing VTT.

? RIP! Good newby boy... !?!

For people having 1.8Volt tolerant Voltage Regulator IC, can use Power Leap PL-iP3/T only, (don't get sad!) because it has an auto-regulating Voltage stage, but not the Upgradewares Slot-T model. It only works with 1.3Volt tolerant Voltage Regulator IC having boards. Check your chip, if it is 1.3Volts tolerant can buy Upgradeware Slot-T model about 35~50$. Power Leap PL-iP3/T is selling with a Processor attached, together with 1.2Gig Celeron, it costs about 135~150$ including the shipment price. So Upgradeware is 100$ cheaper and also selling without the CPU forcement!

Finally, the research is over now. If you need to build this upgrade yourself, use 3 pin way (plus the VCC bridge if you need) or the 7 pin way, which is safer and more powerful. You can use VCC bridge with my 7 pin way too. I do not recommend 7 pin plus VTT way, because it killed my 1.4Gig Celeron...

I have no more Questions in my head about this self-made overdrive action. We hit here and there, but finally reached the end. If you have personal questions mail to me. cemal_gurel@hotmail.com

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i used both ak26-ak4 (with diode between to lower the voltage)
and ag1-ak4 (VTT, i'm using it now on bx133)

they works good ...

using a VCC is a good choice if you don't plan to overvolt ...

OK,
I have tried VCC connection with AK4 on my 7 pin modding. I see no difference. Therefore connecting AK4 to a VCC is completely UNNECESSARY! In fact connecting AK4 to VCC slightly decreases Video Decoding performance %5. (Converting avi to mpg I mean.) Other syntethic tests didn't showed a noticable change. This might affect gaming performance too. But I think AK4 is for managing to run the CPU only. If your CPU is working without the bridge, no need to connect any current to AK4.

This AK4 connection way is necessary for 1.8Volt capable boards to run ONLY! If your onboard IC regulator chip is capable of providing 1.3Volts, DO NOT connect AK4 anyware. Just insulate and leave it...

Bulding this connection to AK4 is both difficult and also gives a height change to the Socket 370. This also prevents good contact with other pins inside of the Socket 370. Some people asked me by mailing about this way. For them again, AK4 connection is NOT NECESSARY!

Ok,
I know there are a lot of motherboards, a lot of Slotkets and various Intel & Via chipsets. As I have said, connecting to my AK4 doesn't seems necessary. But, this is my configuration. If you are something other than mine, you MUST of course have to try what is good for your system. I am saying, Asus P3C-E motherboard + Asus S370-DL Slotket + 7pin modding = no need for AK4 bridge. Your mathematical formula for your chemicals might be different...

Some people are asking about why I am telling & advicing people to use 7 pin modding. First of all my way is for 1.3Volt capable motherboards. Second, your motherboard musn't have CPU ID check for Stepping revision. (Such as Intel VC820 and CC820 motherboards, they have 1.3Volt capable Voltage regulator IC's but because of CPU ID check at bios, not possible to run upper cC0 revision, including cD0 and tA1 & tB1 of course.)

The other way to run AK4 bridge first of all needs good signal transfer from Reset pins. Under the CPU, AJ3 and AH4 is PARALELL. This means they have one output for CPU core. If you insert Tualatin CPU, AJ3 short circuits with VSS (Ground) therefore kills Reset signal to be send. Moreover, on Coppermine Slotkets, AH4 and X4 is connected with each other under the Socket 370. But Tualatin CPU X4 pin is VSS too. So it is necessary to insulate that pin to send Reset signal again. People using AK4, mainly needs that bridge for that reason. They must have to wake up the CPU in some way.

Shortly:
AJ3 (Reset) have a short circuit with VSS (Ground) BAD!
X4 (Reset) have a short circuit with VSS (Ground) BAD!
AH4 will gonna send this signal. OK!

AG1 on Coppermine supporting Socket 370 Designs was used, for EDGCTRL signal. On Tualatin design this pin is VTT. For safety this pin is good to insulate.

Shortly:
AG1 (EDGCTRL) have a short circuit with VTT. BAD!

AB36 is (V_CMOS) on Coppermine Design. But used as VTT on Tualatin design. Under the CPU side of Tualatin CPU AD36 and AB36 is PARALELL being VTT, so Coppermine Slot 370 designs have special design for (V_CMOS) other than VTT. If this signal touches VTT generates heat. Gives extra hard job for Mos Fets. AD36 (V_1.5) not much different than VTT and is connected to VTT on Coppermine designs. This one is no problem for us.

Shortly:
AB36 (V_CMOS) have a short circuit with (VTT). SOMEWHAT BAD!
AD36 (V_1.5) is connected to VTT and touches VTT. OK!

X34 has a VCC connection for Backward compatibility for old Celerons. On Coppermine CPU this pin

is (RESERVED) not Connected. But on Tualatin CPU this pin is VTT. This one is the most dangerous one causing short circuit between VTT and VCC.
%80 of people lost their motherboards because of this short circuit.

Shortly:
X34 on Socket 370 is VCC, but VTT on Tualatins. VERY BAD!

I think you can now understand better why I am advicing to insulate 7 pins. For some other type of slotkets there is also AM2 (KEY) pin. This is generally NOT USED on %95 of Slotkets. But I have seen a Soltek Slotket this is used. I couldn't solved what type of reason it is used for but, if you have AM2 pin connected on your Slotket make sure it is not touching to VTT or VCC. If you can not be sure, can insulate that pin, because we don't need that pin anyway.

Surprise...
My Cel 1400 came back!!! He He, The problem was a little piece of cable touching a line at the bottom capacitor group. They have 4 pins on one side as you know. The cable was short circuiting them. Therefore keep clean the capacitor group at that area!

When I was trying VTT, my cut out piece of cable made that trick to me. I was trying to run it on my sister's VC820 board. But I have asked this problem to Powerleap. They have replied that "... because of CPU ID check, only P3 Tualatins can work, not Celeron Tualatins." So, I wanted to tell it to you too. I didn't made a second test with VTT, but it is an obsolete thing for me now. Maybe later...

I want to add one more thing, I am using Asus Probe 21905, which was the latest and the final one. Asus is not planning to continue that one and the motherboard monitor program at util page.

The Nidec fan was alarming all the time for about 5~10 seconds at the beginning that my CPU fan is not working. Later it continues normally giving the information. If you are using Asus Probe, this is a bad thing. But, Nidec fan and the cooler is not too bad. Yes Sanyo works better but, Nidec has a great big cooler with a silent and big fan. I am running mine at 1.6Gig so you can also use this fan, but a bigger weighted cooler is much better. You may also look for copper-bottomed ones for safety. Actually, beeping about 5~10 sec from a Cooler is not a good thing if you are Overclocking your system. But if you can not manage to find a good cooler at your area, you may only think of replacing the Nidec fan only. I am saying this for my system again of course. If your motherboard alerting program works better than mine, you may continue your way normaly...

Hey Boys I came back!

First thing, I want to tell to you is you don't need to use 7 pin modding by me... Because! I have investigated that P3 Copper, P3 Tualatin & Celeron datasheet is false.

Whattt?.. You said?.. Yes I did...

Latest Explanation:

----------AC33, Y37 and X4 is not connected to VSS (Ground) they are NC. AA37 and Y35 is not connected to VCC they are NC. X34 and G37 is not connected to VTT they are NC too.

So whats up?

Using 7 pin modding is 5 pin modding now on! (4 pin for some Slotkets) Can insulate only AN1, AK4, AJ3, AG1 and AB36. (The 5th AB36 is better for decreasing the temperature a bit on some slotkets. Not for all, test yours own!) Other 2 of 7 pin modding at X4 and X34 faces to unused pins.

Yes I apologise, but false datasheet is not my fault! Assuming the unused pins were used, I have developed 7 pin modding before. Tie to AK4 to VTT or VCC is optional. You can build the bridge if your CPU not works as you know. Well I have talked about this modding a lot at this forum and don't want to talk about it much more.

But I want to add more fascinating things,

Some people are still wondering how this modding has arised. It is derived by Intel Pentium III Processor with 512KB L2 Cache Bus Terminator Design Guide called 24966101.pdf page 7, 13 (the 8th one is important for AG1) and 14. The AL1 pin is told to be NC but it is not used on the CPU and therefore not necessary to make any modding for this pin. You can check other pins if you wish. But AK36 is must have to touch the GND to disable 0.25V granulity down to 0.5V steps. C37 is good to tie to GND and itself is a GND on the CPU too. AF36 is DETECT (VCC Core Det is this pin) and automatically fits to GND.

My personal investigation is that, Reserved E21 is a VSS (Ground) and can be tie to GND on the Slotket for better ground. Q35 and Q37 is Reserved for factory use. Do not use those pins at random order. If you connect them both to VSS (Ground) your CPU may be UNLOCKED! if your bios will not prevent it.

I mean, the frequency multiplier can be out of order. Just like being on AMD CPU's. But that is %99 not supported by bios. If you turn on and off the Computer like that, or just enter into bios, you will have a warning of " ... improper frequency multiplier detected... bla bla " on the bios screen if you manually adjust a different CPU multiplier other than the original multiplier near the CPU highlight zone. (If you do not connect the Q35 and Q37 to GND this error message is not visible.) I still couldn't solve, nor succeed on breaking the ..... 6.5, 7, 7.5, 8, 8.5 ..... settings.

Computer goes on the original multiplier regardless of the error message. For Cel 1200 I adjusted 3 to 8 instead of 12 for example to cope with that error message. Try if you wish on your motherboard. But be carefull on that! Do not push it too hard like a baby. Other Reserved pins are not used.

Bye, Have a good Summer!

I didn't understand? Do you want to mod Asus S370-DL to run Tualatin CPU like Slot-T adapter by Upgradeware? Yes you can.

Not only with Asus S370-DL there is Asus S370-133, ABit and branded many other ones having the

TVC chip on board, (there are no TVC chip ones too but their performance is not so good therefore look for a Slotket having a TVC chip on it) Soltek Slotkets and No-Name Chinase adapters like Super Slotket III not works, do not try on them.

You only need to insulate AN1, AK4, AJ3, and AG1. AB36 can be insulated if you have a too high temp. If the mod totally not works you need to make a bridge between AK4 to VCC (easy to build by connecting AK4 to AK2 nearby) or VTT (AK4 to AN11 but quite difficult to reach.) That's it...

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khmok,
Actually I didn't read about dual mode support of Slot-T but if your modding slotket have dual processor support like Asus S370-DL (for Celeron and P3) or Asus S370-133 (Only for Celerons not for P3) they can probably support dual processing according to your motherboard capabilities.

By the way my efforts of braking a CPU multiplier is completely absurd, because I have tested it with my Celeron 1400. 1300 and 1400 processors are not supported by my bios and causes that frequency multiplier allowance by bios. So connecting Q35 and Q37 to GND have completely no effect on frequency multiplier. I apologise again... Q37 is told to be only usable for cA2 stepping based CPU's (by connecting to VTT at Intel's design guide that I newly found.) Q35 seemingly can be connectable to GND. (No corresponding data is available for this one.)

@ ALL: (also My Site info Link)

Wow, the revival of the Thread! Cemal Gurel welcome back! :-) This your turn from 7 to 5 pin mod I have to study it again & other your stuff too when I will have time & will again open my Warp7-machine (other projects in my mind right now). About the unconnected pins: time ago I measured with an ohm-meter & I did not find any non-connected pins on the Tuallie, they are all connected to something the instrument showing but don´t know exactly what! Unlocking Intel? HuH, that would be an achievement (even more than running Tuallies on older boards!)

Heh, instead of so much writing on this thread like you did, you could actually make a website (same amount of work!) I did it last month from scratch learning by the way & you ALL are invited to visit my site at http://freeweb.siol.net/jerman55/HP/Spajky.htm , maybe you could find some interesting stuff there also & if you are in the bad mood, just search for more or less hidden links to open in a new window under sites elements to have some fun too! :-)

PS: does anybody have saved the famous whole MadOnion Thread about the same topic? I would like to have it, but on Futuremark does not exist any more :-(... BYE!

I will post a very dangerous thing now that I have done but did not wished to tell about 3 months not to cause anyone to hurt...

This is about unlocking an Intel CPU but I couldn't succeeded!

As you know there are 8 legged Capacitors in the bottom center of P3 Tualatin and Celerons. There are 12 capacitors on tA1 and 9 capacitors on tB1 revisions. For 12 cap tA1 the centered 8 of them are connected to VCC and the outer 4 of them are connected to VTT. For 9 cap tB1 the centered 6 of them

are VCC and the outer 3 of them are VTT again.

What I have did to my tA1 Celeron 1400 is a mad thing!

I have removed 3 caps under the CPU but mistakenly (I am sometims absent minded) I have removed the opposite way ones! Ha Ha Ha... (the ones looking to V and T line pins 32~37)

What this caused? In the bios screen the CPU multiplier now moves from 3 to 8. (As you know 3 for PIII 300 processors 8 for PIII 800E processors etc.) But even though the controllable menu CPU runs at 1400Mhz still.

I have suspected about the originality of the 1400Mhz CPU in the beginning and assumed 1300Mhz can also be like that because my bios can not handle over 12 multiplier. A couple of weeks ago I have bought a Cel 1300 and see that it's CPU multiplier is constant (not allows 3 to 8) That means my faulty removal of 3 caps was causing the allowance of frequency multiplier! Ta Taaa...

I actually did not wished to post about this because of being dangerous and in fact unsuccesful unlocking experience. But for computer engineers and great professional CPU fanatics may go on and trace it possibly to derive and find the successive way may be?

If the caps once removed they are nearly impossible to re-solder because the capacitor parts are very sensitive. The metal attached 8 legs are separating from the body and become unusable if you want to re-solder them again. For that reason there is no way to return.

CPU keeps running if you won't remove all the caps. I later removed all the caps to see a successive result but this caused CPU to die! Therefore DO NOT try to remove all of the caps if you wish to test it!

Again, this explanation is only for Professionals who are familiar for those types of work and talented & capable of using my hint to develop with their superior knowledge for a finally successive unlocking method...

Maybe a writing on Computer bios or other pin connection ways! I actually traced and find 3 reserved pins such as E21 (Ground) Q35 (Very likely Ground) and Q37 (VTT, but connecting to VTT only advised for cA2 type P3 CPU's such as 800EB etc.) But those pins have no effect on unlocking success that I have seen myself. Other reserved pins are not used. They were left blank, unused.

If you know good professionals around you, please tell them about my attemts on unlocking an Intel CPU. They may catch attention on my way maybe?